

Exhibit 2

Charted Claims

Non-Method Claim: 1


US8788360	Samsung's Galaxy A42 5G ("The Accused Product")
<p>1. A system for processing a wireless request over a network based on a human-perceptible advertisement for advertising to consumers a product or service offered by a vendor, the advertisement attached with at least one radio frequency identification (RFID) tag, the at least one RFID tag being configured to transmit a wireless identification transmission signal representing information</p>	<p>The accused product utilizes a system (e.g., NFC System: NFC feature to read product information) for processing a wireless request (e.g., request to make payments, buy tickets by downloading the appropriate app based on information from NFC tags) over a network based on a human-perceptible advertisement for advertising to consumers a product or service (e.g., information about products) offered by a vendor, the advertisement (e.g., information about products) attached with at least one radio frequency identification (RFID) tag (e.g., near field communication (NFC) tags), the at least one RFID tag (e.g., near field communication (NFC) tags) being configured to transmit a wireless identification transmission signal (e.g., tag responds with the requested information) representing information pertaining to the product or service (e.g., information about products) offered by a vendor comprising:</p> <p>As shown below, Samsung's Galaxy A42 5G is equipped with an NFC feature that allows user to read (i.e., processing a wireless request) near field communication (NFC) tags that contain information about products (e.g., advertising to consumers a product or service) over a network (e.g., RFID communication used by Near Field Communication (NFC) technology). User can use this feature to make payments and buy tickets for transportation or events (e.g., a product or service offered by a vendor) after downloading the required apps.</p>

pertaining to the product or service offered by a vendor comprising:



4G TDD LTE B46(5200),B48(3600)	SIM Slot Type Nano Sim + Micro SD	5G FDD Sub6 N2(1900),N5(850),N66(AWS-3)
5G TDD Sub6 N260(39GHz),N261(28GHz)	5G TDD mmWave N77(3700),N78(3500)	
Connectivity Wi-Fi Connectivity 802.11 a/b/g/n/ac 2.4+5GHz	USB ? USB 2.0	Bluetooth® Bluetooth v5.0
Location Technology GPS,Glonaass,Galileo	Earjack 3.5mm Stereo	Wi-Fi Direct Yes
NFC Yes	PC Sync. Smart Switch (PC version)	USB Interface USB Type-C
OS OS Android		

<https://www.samsung.com/us/smartphones/galaxy-a42-5g/>

- **NFC and contactless payments:** Set the device to allow you to read near field communication (NFC) tags that contain information about products. You can also use this feature to make payments and buy tickets for transportation or events after downloading the required apps. Refer to [NFC and contactless payments \(NFC-enabled models\)](#) for more information.
 - **Flight mode:** Set the device to disable all wireless functions on your device. You can use only non-network services.
-  Follow the regulations provided by the airline and the instructions of aircraft personnel. In cases where it is allowed to use the device, always use it in flight mode.

<https://m.media-amazon.com/images/I/C1VanMNOaZS.pdf>

NFC and contactless payments (NFC-enabled models)

Your device allows you to read near field communication (NFC) tags that contain information about products. You can also use this feature to make payments and buy tickets for transportation or events after downloading the required apps.

- ⚠ The device contains a built-in NFC antenna. Handle the device carefully to avoid damaging the NFC antenna.

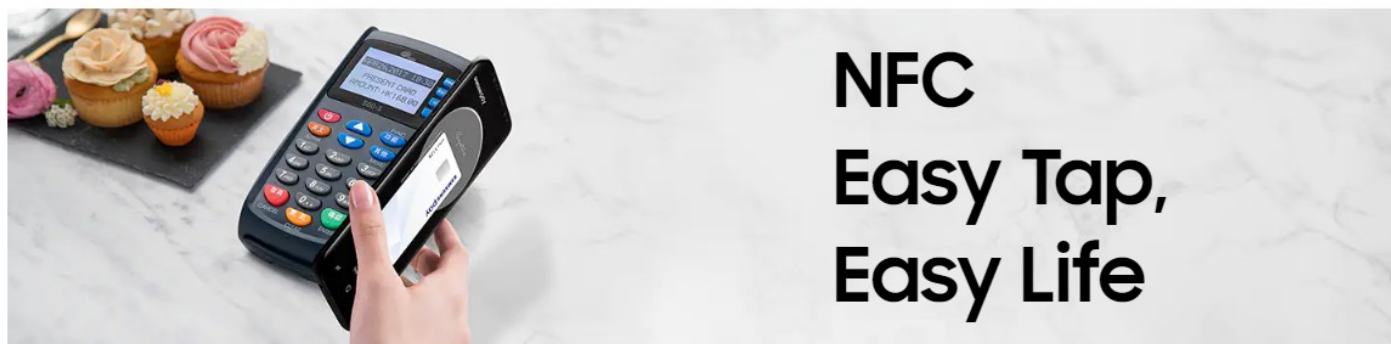
Reading information from NFC tags

Use the NFC feature to read product information from NFC tags.

- 1 On the Settings screen, tap **Connections** and tap the **NFC and contactless payments** switch to activate it.
- 2 Place the NFC antenna area on the back of your device near an NFC tag.
The information from the tag appears.



<https://m.media-amazon.com/images/I/C1VanMNOaZS.pdf>



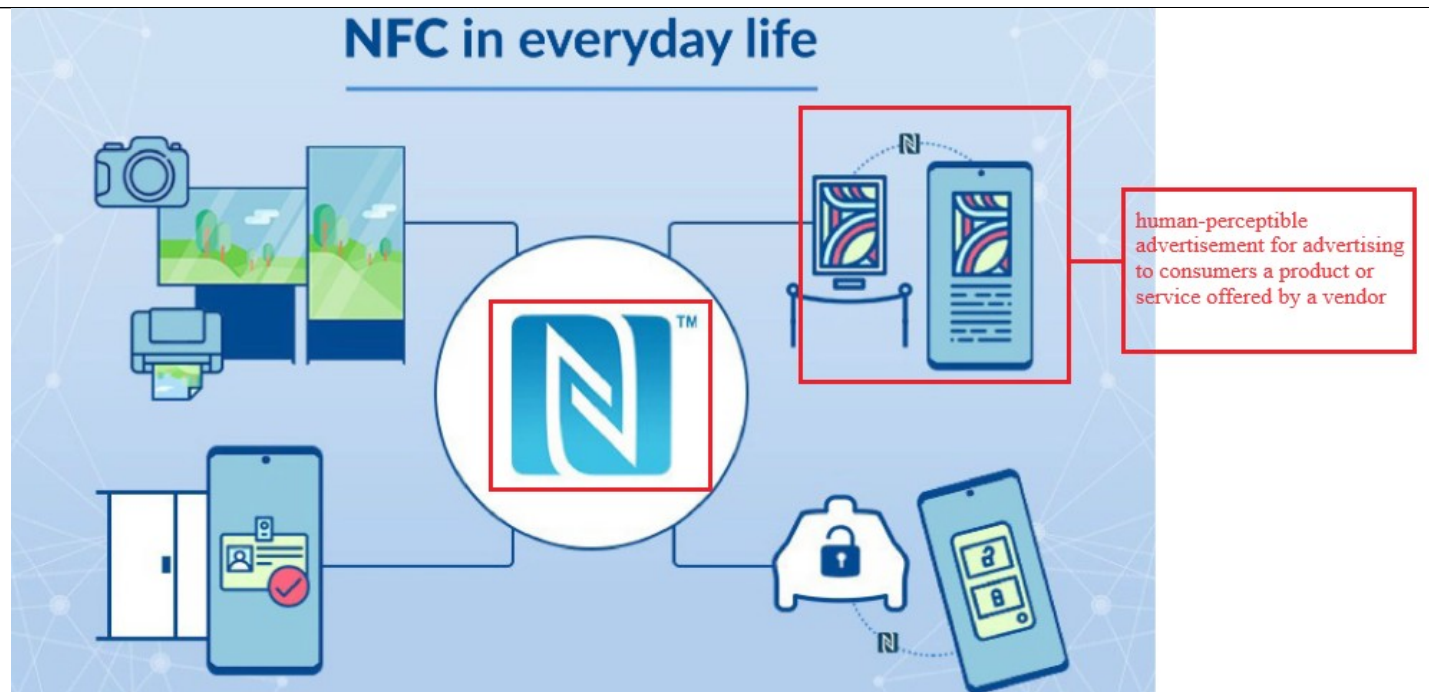
About NFC | Using the NFC feature | NFC detection area

About NFC

Your device allows you to read near field communication (NFC) tags that contain information about products. You can also use this feature to make payments and buy tickets for transportation or events after downloading the required apps.

ⓘ The battery contains a built-in NFC antenna. Handle the battery carefully to avoid damaging the NFC antenna.

https://www.samsung.com/hk_en/nfc-support/



<https://semiconductor.samsung.com/news-events/tech-blog/wireless-technology-to-transform-the-world-part3-nfc-technology-frees-your-hands/>

NFC is also used to augment existing QR technology, which requires manual scanning using a camera app. NFC tags can be attached to individual works in museum art exhibits, and when a user scans each tag with his or her smartphone, detailed information on the work is brought up. Remember to look for an NFC mark the next time you're at a museum or exhibition.

That wraps up our look into NFC, a technology that seems to have been made precisely for the smartphone. We hope you've learned a thing or two about this wondrous technology that makes our lives so much more convenient.

<https://semiconductor.samsung.com/news-events/tech-blog/wireless-technology-to->

[transform-the-world-part3-nfc-technology-frees-your-hands/](#)

Near Field Communication Technology Standards

When developing near field communication devices and new technology, NFC standards must be met. Standards exist to ensure all forms of near field communication technology can interact with other NFC compatible devices and will work with newer devices in the future. Two major specifications exist for NFC technology: ISO/IEC 14443 and ISO/IEC 18000-3. The first defines the ID cards used to store information, such as that found in NFC tags. The latter specifies the RFID communication used by NFC devices.

ISO/IEC 18000-3 is an international standard for all devices communicating wirelessly at the 13.56MHz frequency using Type A or Type B cards, as near field communication does. The devices must be within 4cm of each other before they can transmit information. The standards explain how a device and the NFC tag it is reading should communicate with one another. The device is known as the interrogating device while the NFC tag is simply referred to as the tag.

<http://nearfieldcommunication.org/technology.html>

The two devices create a high frequency magnetic field between the loosely coupled coils in both the interrogating device and the NFC tag. Once this field is established, a connection is formed and information can be passed between the interrogator and the tag. The interrogator sends the first message to the tag to find out what type of communication the tag uses, such as Type A or Type B. When the tag responds, the interrogator sends its first commands in the appropriate specification.

The tag receives the instruction and checks if it is valid. If not, nothing occurs. If it is a valid request, the tag then responds with the requested information. For sensitive transactions such as credit card payments, a secure communication channel is first established and all information sent is encrypted.

NFC tags function at half duplex while the interrogator functions at full duplex. Half duplex refers to a device that can only send or receive, but not both at once. Full duplex can do both simultaneously. A NFC tag can only receive or send a signal, while the interrogating device can receive a signal at the same time it sends a command. Commands are transmitted from the interrogator using PJM (phase jitter modulation) to modify the surrounding field and send out a signal. The tag answers using inductive coupling by sending a charge through the coils in it. Meeting these specifications ensures all NFC devices and tags can communicate effectively with one another.

<http://nearfieldcommunication.org/technology.html>

	<p>ISO/IEC 18000-63:2013 specifies the physical and logical requirements for a passive-backscatter, Interrogator-Talks-First (ITF) systems. The system comprises Interrogators, also known as readers, and tags, also known as labels. An Interrogator receives information from a tag by transmitting a continuous-wave (CW) RF signal to the tag; <u>the tag responds by modulating the reflection coefficient of its antenna, thereby backscattering an information signal to the Interrogator.</u> The system is ITF, meaning that a tag modulates its antenna reflection coefficient with an information signal only after being directed to do so by an Interrogator.</p> <p>ISO/IEC 18000-63:2013 contains Type C.</p> <p>Type C uses PIE in the forward link and a random slotted collision-arbitration algorithm.</p> <p>ISO/IEC 18000-63:2013 specifies https://www.iso.org/standard/59643.html</p>
mobile ordering device of a human consumer who perceives the human-perceptible advertisement, the mobile ordering device comprising a	<p>The accused product is a mobile ordering device (e.g., Samsung's Galaxy A42 5G) of a human consumer who perceives the human-perceptible advertisement (e.g., information about products), the mobile ordering device (e.g., Samsung's Galaxy A42 5G) comprising a radio frequency identification reader (e.g., NFC antenna area) configured to transmit a signal (e.g., transmitting a continuous-wave (CW) RF signal to request for reading product information from NFC tags) to the at least one RFID tag (e.g., near field communication (NFC) tags) attached with the advertisement (e.g., information about products) and to receive in response (e.g., responds) from the at least one RFID tag (e.g., near field communication (NFC) tags)) the wireless identification transmission signal (e.g., receive product information from the tag) corresponding to the advertisement and representing information pertaining to the</p>

radio frequency identification reader configured to transmit a signal to the at least one RFID tag attached with the advertisement and to receive in response from the at least one RFID tag the wireless identification transmission signal corresponding to the advertisement and representing information pertaining to the product or service offered by the vendor, the mobile ordering device further configured to accept input	<p>product or service (e.g., information about products) offered by the vendor, the mobile ordering device (e.g., Samsung's Galaxy A42 5G) further configured to accept input (e.g., user input for processing information from NFC tags like make payments, buy tickets by downloading the appropriate app) from a consumer, generate an electronic request (e.g., request to make payments, buy tickets by downloading the appropriate app) with the received information from the wireless identification transmission signal (e.g., product information from the tag) and communicate the request (e.g., request to make payments, buy tickets by downloading the appropriate app) to and receive a response (e.g., acknowledgement for payments or bought tickets) from a commerce data system (e.g., appropriate apps associated with NFC tags) across a network.</p> <p>As shown below, Samsung's Galaxy A42 5G is equipped with an NFC feature that allows user to read (i.e., processing a wireless request) near field communication (NFC) tags that contain information about products (e.g., advertising to consumers a product or service) over a network (e.g., RFID communication used by Near Field Communication (NFC) technology). NFC Interrogator/reader or radio frequency identification reader (e.g., NFC antenna area) can provide a request for reading product information from NFC tags by placing the NFC antenna area on the back of your device near an NFC tag. The NFC tags respond to the request by providing the product information to the mobile ordering device (e.g., Samsung's Galaxy A42 5G). Further, the user can utilize the product information from the tag (the wireless identification transmission signal) to make payments, buy tickets by downloading the appropriate app. The appropriate app responds to the user request by providing the user with an acknowledgement for payments or bought tickets.</p>
--	--

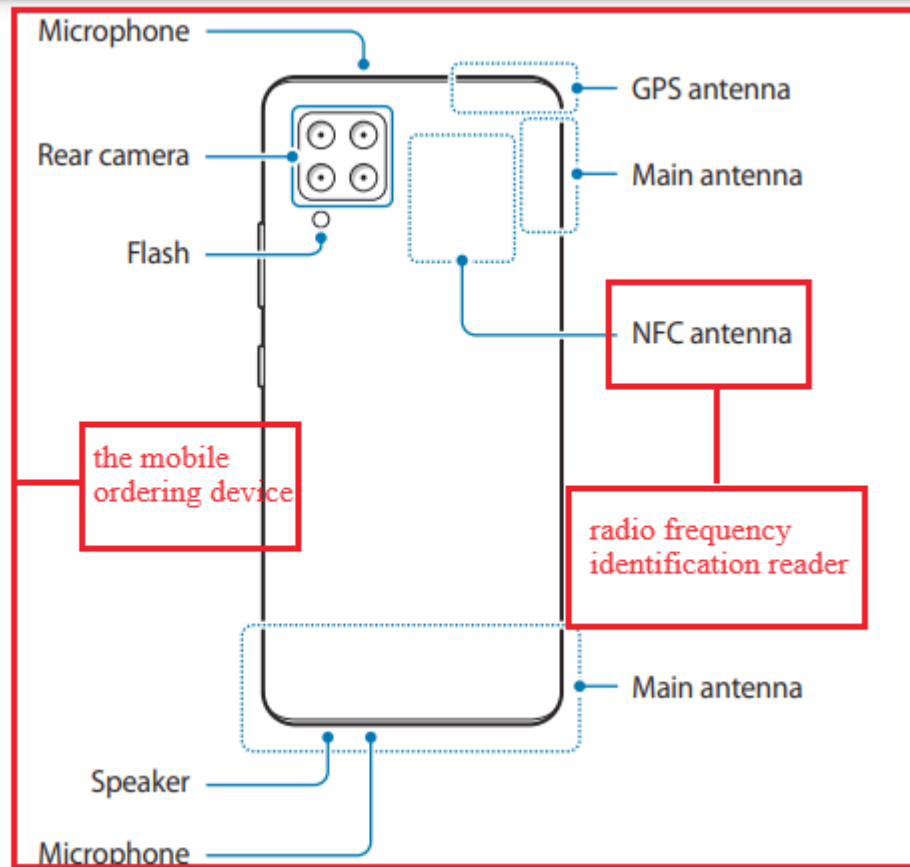
from a consumer, generate an electronic request with the received information from the wireless identification transmission signal and communicate the request to and receive a response from a commerce data system across a network;

4G TDD LTE B46(5200),B48(3600)	SIM Slot Type Nano Sim + Micro SD	5G FDD Sub6 N2(1900),N5(850),N66(AWS-3)
5G TDD Sub6 N260(39GHz),N261(28GHz)	5G TDD mmWave N77(3700),N78(3500)	
Connectivity Wi-Fi Connectivity 802.11 a/b/g/n/ac 2.4+5GHz	USB ? USB 2.0	Bluetooth® Bluetooth v5.0
Location Technology GPS,Glonass,Galileo	Earjack 3.5mm Stereo	Wi-Fi Direct Yes
NFC Yes	PC Sync. Smart Switch (PC version)	USB Interface USB Type-C
OS OS Android		

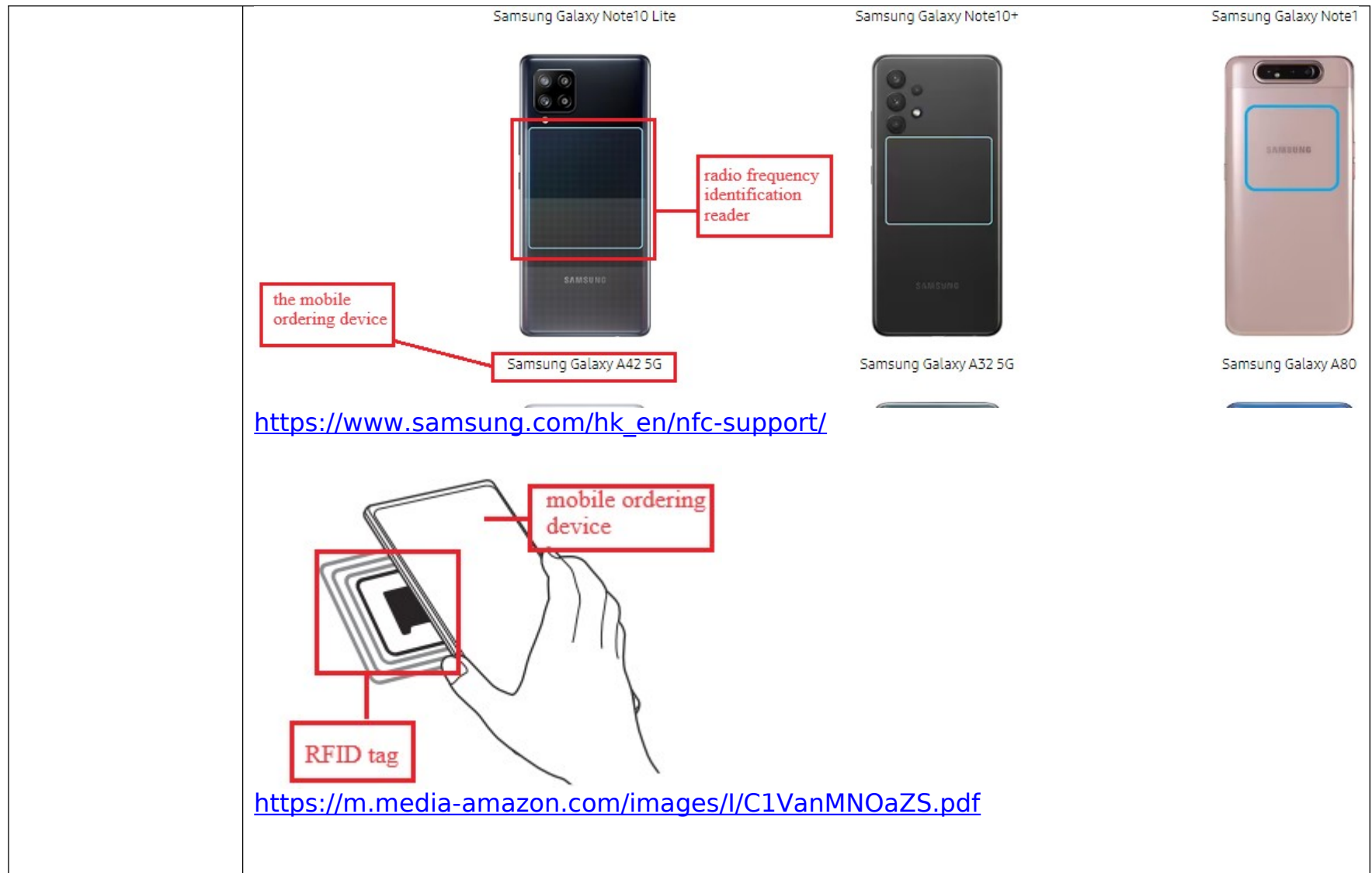
<https://www.samsung.com/us/smartphones/galaxy-a42-5g/>

- **NFC and contactless payments:** Set the device to allow you to read near field communication (NFC) tags that contain information about products. You can also use this feature to make payments and buy tickets for transportation or events after downloading the required apps. Refer to [NFC and contactless payments \(NFC-enabled models\)](#) for more information.
 - **Flight mode:** Set the device to disable all wireless functions on your device. You can use only non-network services.
- ⚠ Follow the regulations provided by the airline and the instructions of aircraft personnel. In cases where it is allowed to use the device, always use it in flight mode.

<https://m.media-amazon.com/images/I/C1VanMNOaZS.pdf>



<https://m.media-amazon.com/images/I/C1VanMNOaZS.pdf>



Near Field Communication Technology Standards

When developing near field communication devices and new technology, NFC standards must be met. Standards exist to ensure all forms of near field communication technology can interact with other NFC compatible devices and will work with newer devices in the future. Two major specifications exist for NFC technology: ISO/IEC 14443 and ISO/IEC 18000-3. The first defines the ID cards used to store information, such as that found in NFC tags. The latter specifies the RFID communication used by NFC devices.

ISO/IEC 18000-3 is an international standard for all devices communicating wirelessly at the 13.56MHz frequency using Type A or Type B cards, as near field communication does. The devices must be within 4cm of each other before they can transmit information. The standards explain how a device and the NFC tag it is reading should communicate with one another. The device is known as the interrogating device while the NFC tag is simply referred to as the tag.

<http://nearfieldcommunication.org/technology.html>

The two devices create a high frequency magnetic field between the loosely coupled coils in both the interrogating device and the NFC tag. Once this field is established, a connection is formed and information can be passed between the interrogator and the tag. The interrogator sends the first message to the tag to find out what type of communication the tag uses, such as Type A or Type B. When the tag responds, the interrogator sends its first commands in the appropriate specification.

The tag receives the instruction and checks if it is valid. If not, nothing occurs. If it is a valid request, the tag then responds with the requested information. For sensitive transactions such as credit card payments, a secure communication channel is first established and all information sent is encrypted.

NFC tags function at half duplex while the interrogator functions at full duplex. Half duplex refers to a device that can only send or receive, but not both at once. Full duplex can do both simultaneously. A NFC tag can only receive or send a signal, while the interrogating device can receive a signal at the same time it sends a command. Commands are transmitted from the interrogator using PJM (phase jitter modulation) to modify the surrounding field and send out a signal. The tag answers using inductive coupling by sending a charge through the coils in it. Meeting these specifications ensures all NFC devices and tags can communicate effectively with one another.

a radio frequency identification reader configured to transmit a signal to the at least one RFID tag attached with the advertisement and to receive in response from the at least one RFID tag the wireless identification transmission signal

<http://nearfieldcommunication.org/technology.html>

ISO/IEC 18000-63:2013 specifies the physical and logical requirements for a passive-backscatter, Interrogator-Talks-First (ITF) systems. The system comprises Interrogators, also known as readers, and tags, also known as labels. An Interrogator receives information from a tag by transmitting a continuous-wave (CW) RF signal to the tag; the tag responds by modulating the reflection coefficient of its antenna, thereby backscattering an information signal to the Interrogator. The system is ITF, meaning that a tag modulates its antenna reflection coefficient with an information signal only after being directed to do so by an Interrogator.

ISO/IEC 18000-63:2013 contains Type C.

radio frequency identification reader configured to transmit a signal to the at least one RFID tag attached with the advertisement and to receive in response from the at least one RFID tag

Type C uses P1E in the forward link and a random slotted collision-arbitration
<https://www.iso.org/standard/59643.html>

NFC and contactless payments (NFC-enabled models)

Your device allows you to read near field communication (NFC) tags that contain information about products. You can also use this feature to make payments and buy tickets for transportation or events after downloading the required apps.

- ⚠ The device contains a built-in NFC antenna. Handle the device carefully to avoid damaging the NFC antenna.

accept input from a consumer, generate an electronic request and receive a response from a commerce data system

Reading information from NFC tags

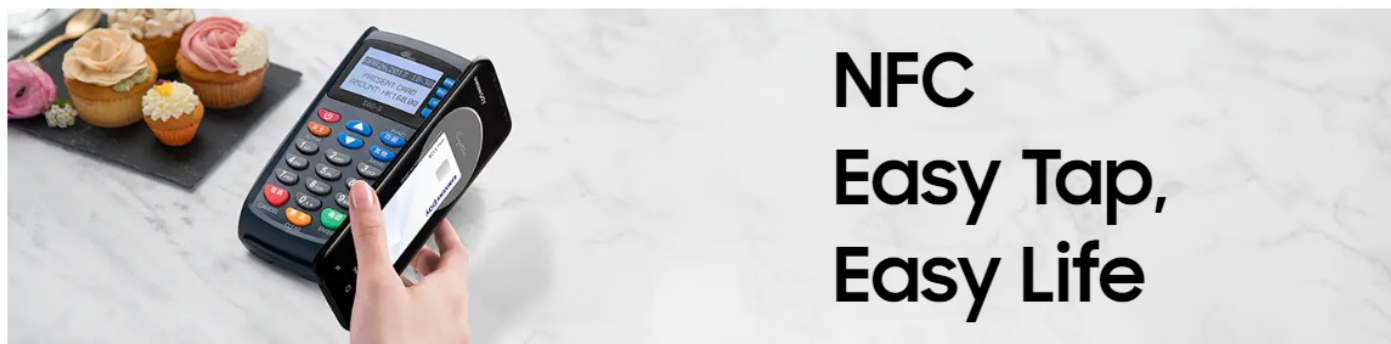
Use the NFC feature to read product information from NFC tags.

- 1 On the Settings screen, tap **Connections** and tap the **NFC and contactless payments** switch to activate it.
- 2 Place the NFC antenna area on the back of your device near an NFC tag. The information from the tag appears.



the mobile ordering device comprising a radio frequency identification reader to transmit a signal to RFID tag attached with the advertisement and to receive in response from the at least one RFID tag

<https://m.media-amazon.com/images/I/C1VanMNOaZS.pdf>



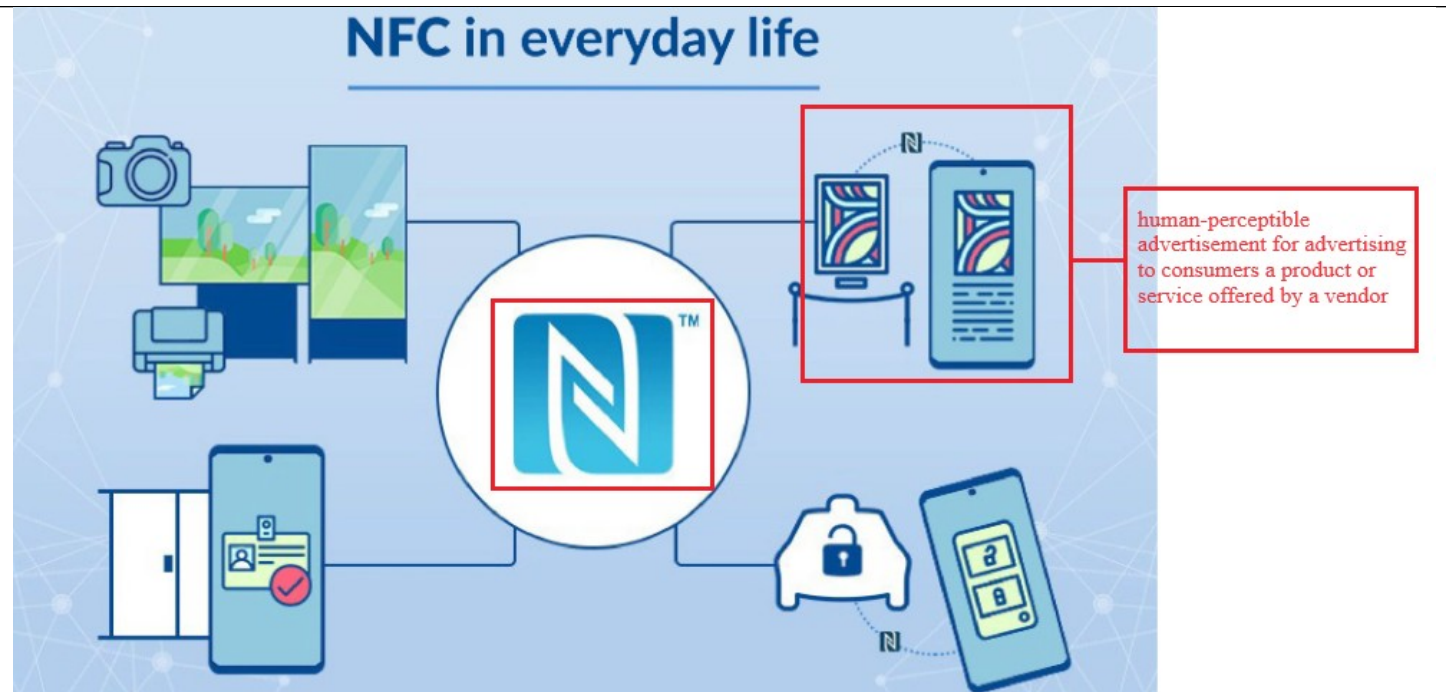
About NFC | Using the NFC feature | NFC detection area

About NFC

Your device allows you to read near field communication (NFC) tags that contain information about products. You can also use this feature to make payments and buy tickets for transportation or events after downloading the required apps.

! The battery contains a built-in NFC antenna. Handle the battery carefully to avoid damaging the NFC antenna.

https://www.samsung.com/hk_en/nfc-support/



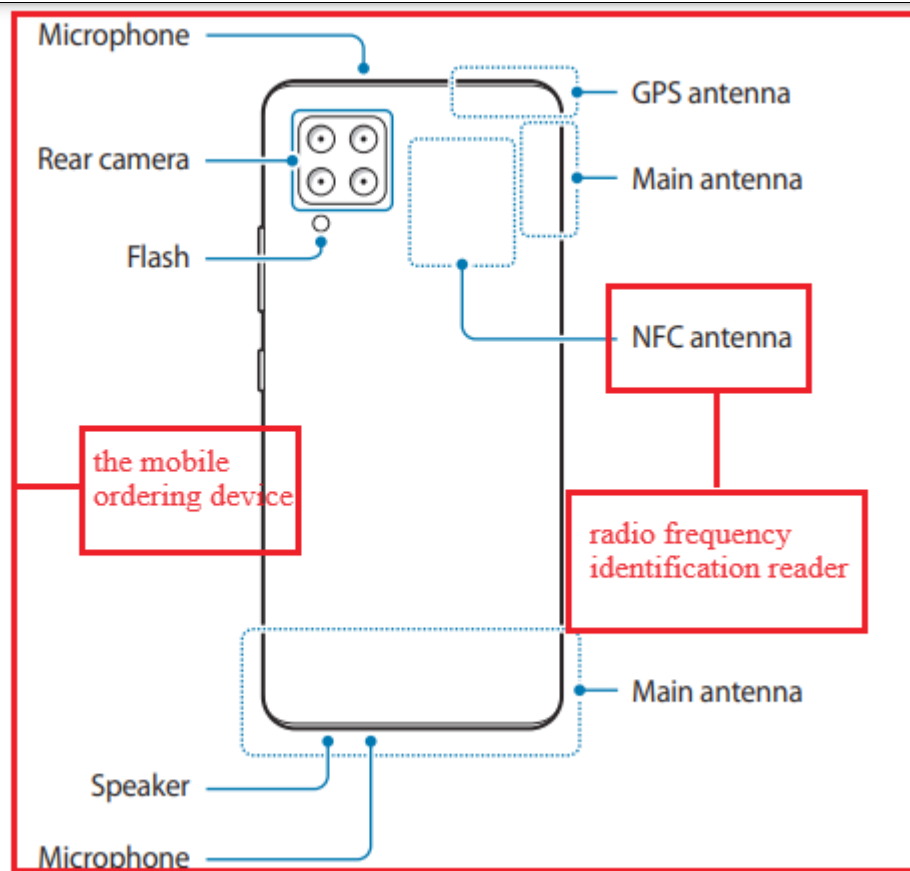
<https://semiconductor.samsung.com/news-events/tech-blog/wireless-technology-to-transform-the-world-part3-nfc-technology-frees-your-hands/>

NFC is also used to augment existing QR technology, which requires manual scanning using a camera app. NFC tags can be attached to individual works in museum art exhibits, and when a user scans each tag with his or her smartphone, detailed information on the work is brought up. Remember to look for an NFC mark the next time you're at a museum or exhibition.

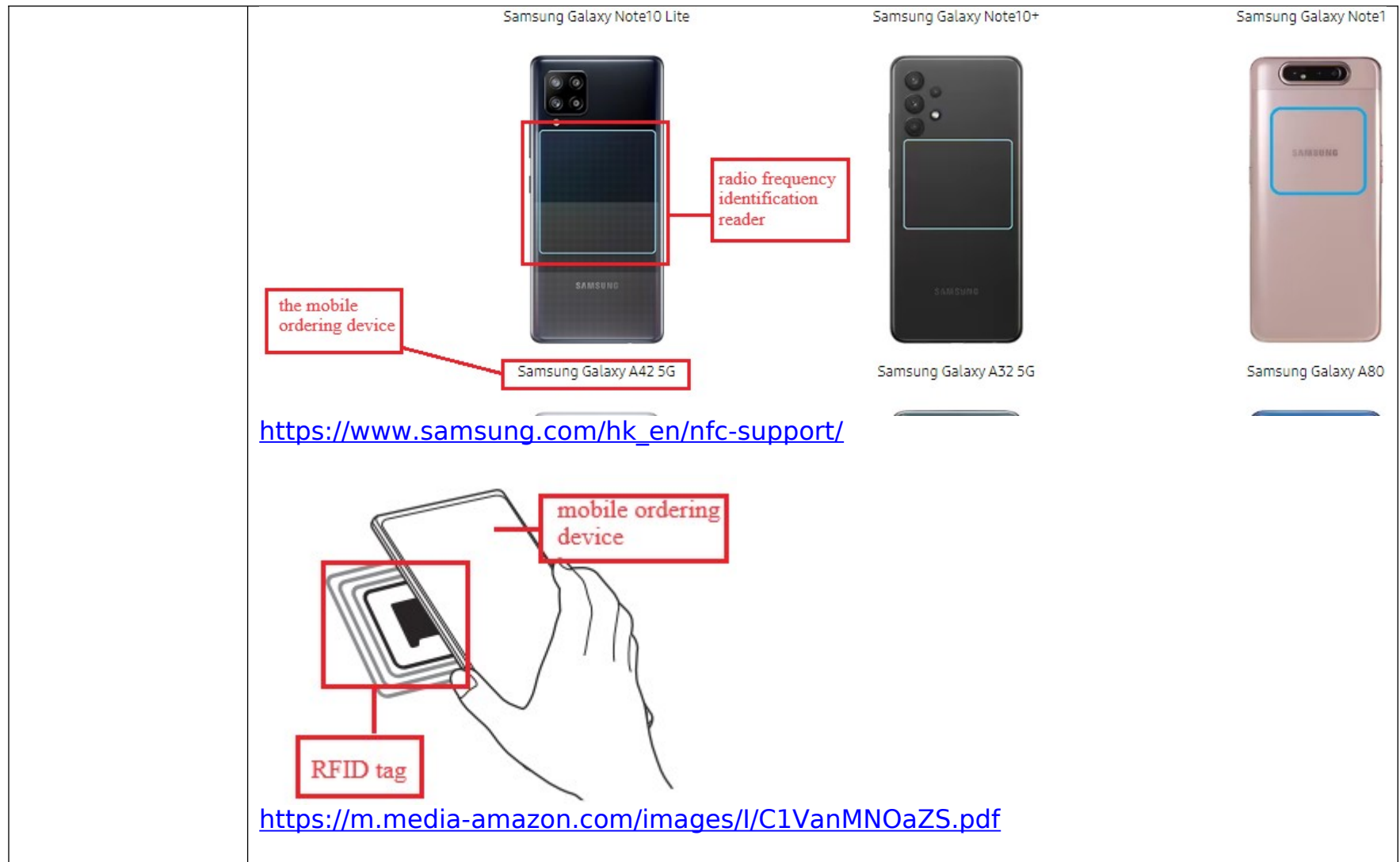
That wraps up our look into NFC, a technology that seems to have been made precisely for the smartphone. We hope you've learned a thing or two about this wondrous technology that makes our lives so much more convenient.

<https://semiconductor.samsung.com/news-events/tech-blog/wireless-technology-to->

	<u>transform-the-world-part3-nfc-technology-frees-your-hands/</u>
the mobile ordering device in communication with the commerce data system, the commerce data system for receiving and processing the request of the mobile ordering device across the network, and responding to the request by sending information to the mobile ordering device via the network, the information associated with the wireless identification transmission signal.	<p>The accused product discloses the mobile ordering device (e.g., Samsung's Galaxy A42 5G) in communication with the commerce data system (e.g., appropriate apps associated with NFC tags), the commerce data system (e.g., appropriate apps associated with NFC tags) for receiving and processing the request (e.g., request to make payments, buy tickets by downloading the appropriate app) of the mobile ordering device (e.g., Samsung's Galaxy A42 5G) across the network, and responding to the request (e.g., request to make payments, buy tickets by downloading the appropriate app) by sending information (e.g., acknowledgement for payments or bought tickets) to the mobile ordering device (e.g., Samsung's Galaxy A42 5G) via the network, the information (e.g., acknowledgement for payments or bought tickets) associated with the wireless identification transmission signal (e.g., product information from the tag).</p> <p>As shown below, Samsung's Galaxy A42 5G is equipped with an NFC feature that allows user to read (i.e., processing a wireless request) near field communication (NFC) tags that contain information about products (e.g., advertising to consumers a product or service). The user can utilize the product information from the tag (the wireless identification transmission signal) to make payments, buy tickets by downloading the appropriate app. The appropriate app responds to the user request by providing the user with an acknowledgement for payments or bought tickets.</p>



<https://m.media-amazon.com/images/I/C1VanMNOaZS.pdf>



NFC and contactless payments (NFC-enabled models)

Your device allows you to read near field communication (NFC) tags that contain information about products. You can also use this feature to make payments and buy tickets for transportation or events after downloading the required apps.

- ⚠ The device contains a built-in NFC antenna. Handle the device carefully to avoid damaging the NFC antenna.

accept input from a consumer, generate an electronic request and receive a response from a commerce data system

Reading information from NFC tags

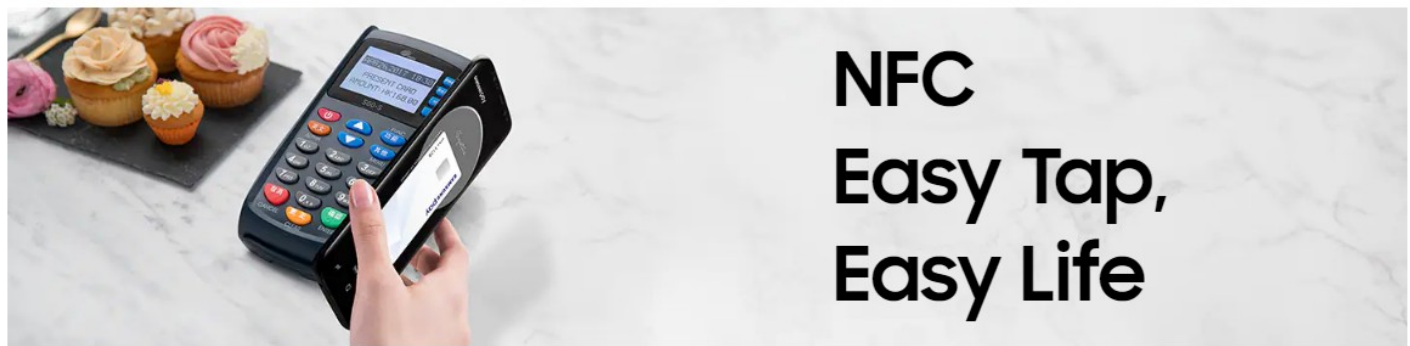
Use the NFC feature to read product information from NFC tags.

- 1 On the Settings screen, tap **Connections** and tap the **NFC and contactless payments** switch to activate it.
- 2 Place the NFC antenna area on the back of your device near an NFC tag. The information from the tag appears.



the mobile ordering device comprising a radio frequency identification reader to transmit a signal to RFID tag attached with the advertisement and to receive in response from the at least one RFID tag

<https://m.media-amazon.com/images/I/C1VanMNOaZS.pdf>



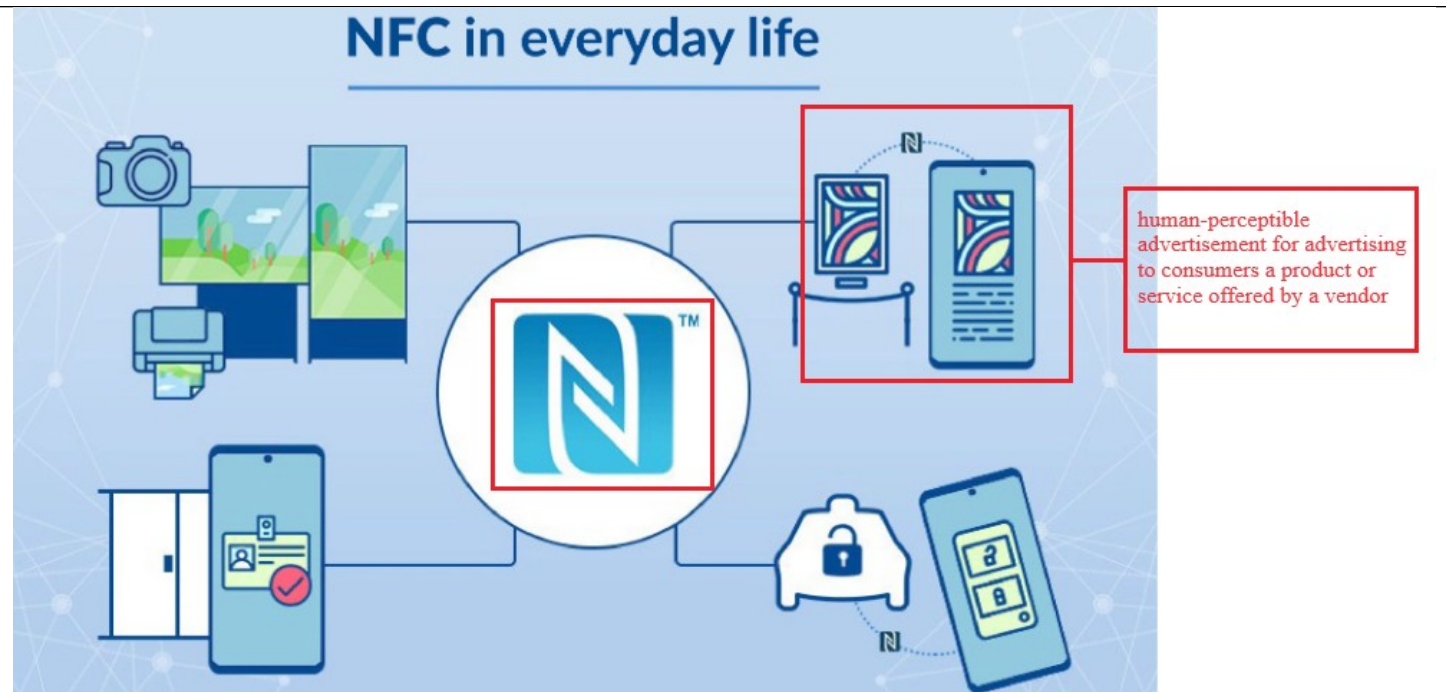
About NFC | Using the NFC feature | NFC detection area

About NFC

Your device allows you to read near field communication (NFC) tags that contain information about products. You can also use this feature to make payments and buy tickets for transportation or events after downloading the required apps.

! The battery contains a built-in NFC antenna. Handle the battery carefully to avoid damaging the NFC antenna.

https://www.samsung.com/hk_en/nfc-support/



<https://semiconductor.samsung.com/news-events/tech-blog/wireless-technology-to-transform-the-world-part3-nfc-technology-frees-your-hands/>

NFC is also used to augment existing QR technology, which requires manual scanning using a camera app. NFC tags can be attached to individual works in museum art exhibits, and when a user scans each tag with his or her smartphone, detailed information on the work is brought up. Remember to look for an NFC mark the next time you're at a museum or exhibition.

That wraps up our look into NFC, a technology that seems to have been made precisely for the smartphone. We hope you've learned a thing or two about this wondrous technology that makes our lives so much more convenient.

<https://semiconductor.samsung.com/news-events/tech-blog/wireless-technology-to->

	<u>transform-the-world-part3-nfc-technology-frees-your-hands/</u>
--	---